



## Feed the Future Country Fact Sheet

Online Version: <https://www.feedthefuture.gov/article/kenyas-crop-innovators-moving-needle-food-security>

# Kenya's Crop of Innovators Moving the Needle on Food Security

*The following is an excerpt from a USAID FrontLines article. [Read the full story](#) on the USAID website.*

Growing up in Njoro, Kenya, in the 1970s, Fredrick Muthuri remembers working alongside his mother and brothers on their farm, planting maize.

His family's farm neighbored big plots owned by commercial farmers.

"I used to wonder why there was such a big disparity in yields between what they used to get and what we used to get, because our life was built around planting," he says.

It wasn't until many harvests later that Muthuri and his family learned that a successful farmer always tests his soil to determine which fertilizers to use. "A soil test is the thermometer of agricultural production. Like when you go to the hospital and they take your temperature, it's the first stage of finding out the problem with your soil," says Muthuri.

Now in his 40s, Muthuri is a botanist and chemist. He is laser-focused on using soil science to help farmers maximize their productivity.

In 2004, he started a small soil testing lab, Quest Technologies, which performed basic soil analyses for large exporters. But Muthuri felt there was more he could offer, especially to small-scale farmers unable to afford the \$35 (3,000 Kenyan shillings) analyses, and who didn't have the time or resources to travel back and forth to a traditional laboratory.

In 2012, Muthuri developed a simple, cheap, mobile soil testing concept. Soil kits were supplied to local agricultural and veterinary businesses, or agro-vets. Extension workers used these kits to provide on-farm soil testing for their network of local farmers for about \$12 (1,000 KSh). The raw results of the 45-minute test are given to the farmer and entered into an online platform, which calculates a customized fertilizer recommendation within minutes. If the fertilizer is unavailable in the farmer's area, Quest can deliver a custom blend to the local agro-vet. Smallholder farmers will be able to boost their yields by 25 percent to 100 percent, and potentially increase their income by about \$500 per year.

Creative and open-minded Kenyans like Muthuri are not waiting for someone else to solve their problems. They are jump-starting development with ideas that have the potential to improve the lives of other Kenyans across the country.

Muthuri pitched his solution to USAID/Kenya's [Feed the Future Innovation Engine](#), and is receiving the support he needs to pilot his idea. Launched in 2012, the Engine is attracting scalable ideas that have the potential to transform agriculture in Kenya through one of the country's most valuable assets—the farmer.